

Innovations within the organic food sector – basis for novel business relations between agricultural and processing enterprises

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Abstract

Innovations within the processing sector may stimulate new, and extend and stabilize existing business relations with agricultural enterprises along the market chain. Due to their regional focus, small and medium-sized businesses in organic food production are eminently dependent on collaboration. On the basis of the evaluation of 140 applications for the Innovation Contest, this paper demonstrates how new and sustainable revenues can be built up by entering economic collaborations with innovative businesses of the processing sector.

Introduction

The competitive standards within organic food processing have increasingly changed over the past years. Participation of larger businesses, store brands and international as well as national certifications have been contributing to these changes. Innovations in the processing sector can help managing the new market situation (Brockhoff, 1997). As in other sectors, the uniqueness of an innovative business solution in organic production is of particular importance in order to be successful (Gottwald et al., 1982). This also includes effective marketing strategies, which highlight the positive image of organic products (Reuter and Kunz, 2006). The major condition for a successful innovation is its awareness level, i.e. the identification of the innovative idea with the producer or the brand (Zillmer, 2000). Research has shown that innovations often are encouraged by the legal framework, for instance prescriptive limits or environmental codes of practice (Gottwald, 2004). The *Innovation Contest* was launched by the Schweisfurth Foundation in 2003, amongst other reasons, in order to empirically assess how the EU-certification of organic food stimulates the business relationships between agricultural and processing enterprises. The competitions took place in 2003, 2005 and 2007 and figured out innovative business solutions in different sectors of the processing industry (<http://www.innovationspreis-bio-verarbeitung.de>). Following Hauschildt (2004), the concept of the *Innovation Contest* aims at identifying innovative business solutions from their development to their marketing and highlighting their contribution to complex societal interactions. The main objective of the contest is, to gain information about innovative capacities of the processing branch and make them accessible in order to encourage more companies to break new ground. The second objective is to motivate enterprises which are already operating in the organic food industry to improve their products and performance via innovations.

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Thirdly, the contest enriches the pool of ideas which is necessary for the success of the organic food market and helps combating prejudices against the sector.

For the competition and for this paper, innovation is understood as the introduction of new goods, new methods of production and/or the conquest of new sources of supply. The innovation can be original (the introduction of a completely novel product or production method) or incremental (the transfer of an already existing product or production method to a novel business area).

Materials and methods

The present study is a qualitative analysis of 140 applications the Schweisfurth-Foundation received for the *Innovation Contest* in 2003, 2005 and 2007. The applying enterprises were classified into three categories: small enterprises (1-15 employees), medium sized businesses (16-299 employees) and large-scale enterprises (300 employees and more).

First of all, the innovations were examined with regard to their contribution to *Five Dimensions*. These dimensions are:

- Technology
- Production and raw materials
- Nutrition and health
- Corporate culture, marketing, cooperation and communication
- Environmental responsibility and climate protection.

The 140 applicants have assigned each of their innovations to one or more of these five categories, depending on the subject of the innovations. These 389 innovations in the different categories were quantitatively analyzed.

In a second step, the innovations were typified into four categories in order to assess the impact of the innovation on stimulating, extending and stabilizing new business relations within the organic food sector. These categories describe the impact on developing new or expanding existing:

- Supplier cooperation (initial production)
- Market relations
- Supplier cooperation (process technologies)
- Scientific cooperation

According to the classification within the five dimensions, the different aspects of the innovations were assigned to one or more of these criteria.

Results

Overall, most of the 140 applicants were medium-sized businesses (53,6%), followed by small businesses (38,5%). Following, the results for small and medium-sized businesses are presented, since only 11 applicants were large-scale businesses (7,9%) within the three years. Medium-sized businesses were contributing most of the innovations:

Tab. 1: Proportion (in percentage) of innovations for small, medium and large businesses in 2003, 2005 and 2007

| | 2003 | 2005 | 2007 | Overall |
|---------------|------|------|------|---------|
| <i>Small</i> | 44,3 | 26,9 | 49,3 | 41,4 |
| <i>Medium</i> | 50,3 | 61,5 | 42,6 | 50,6 |
| <i>Large</i> | 5,4 | 11,5 | 8,1 | 8,0 |

Tab. 2: Number of innovations (in percentage), categorized by business size (s=small, m=medium), year and the five dimensions.

| Year | Size | Tech- nology | production & raw materials | nutrition & health | corporate culture, marketing, cooperation & communication | Environmental responsibility & climate protection |
|------|------|-----------------|----------------------------------|-----------------------|--|--|
| 2003 | s | 25,8 | 21,2 | 18,2 | 21,2 | 13,6 |
| | m | 21,3 | 26,7 | 10,7 | 29,3 | 12 |
| 2005 | s | 28,6 | 32,1 | 3,6 | 32,1 | 3,6 |
| | m | 17,2 | 26,6 | 15,6 | 32,8 | 7,8 |
| 2007 | s | 17,9 | 19,4 | 29,8 | 19,4 | 13,4 |
| | m | 13,8 | 22,4 | 25,9 | 19,0 | 19,0 |

Tab. 3: Percentage of innovations (small and medium enterprises) which have an impact on (1) supplier cooperation (initial production), (2) market relations, (3) supplier cooperation (process technologies) and (4) scientific cooperation, sorted by the five dimensions:

| <i>Small enterprises</i> | | | | | |
|---------------------------|------------|----------------------------------|-----------------------|--|--|
| | technology | production & raw materials | nutrition & health | corporate culture, marketing, cooperation & communication | Environmental responsibility & climate protection |
| (1) | 48,6 | 75 | 33,3 | 50 | 42,1 |
| (2) | 45,9 | 50 | 87,9 | 83,3 | 68,4 |
| (3) | 64,9 | 27,8 | 27,3 | 19,4 | 68,4 |
| (4) | 13,5 | 5,6 | 6,1 | 2,8 | 5,3 |
| <i>Medium enterprises</i> | | | | | |
| | technology | production & raw materials | nutrition & health | corporate culture, marketing, cooperation & communication | Environmental responsibility & climate protection |
| (1) | 31,4 | 88 | 48,5 | 55,6 | 44 |
| (2) | 54,3 | 68 | 100 | 90,7 | 72 |
| (3) | 85,7 | 38 | 39,4 | 29,6 | 84 |
| (4) | 8,6 | 4 | 12,1 | 9,3 | 16 |

Discussion

The kind of innovations not only differs by business size, but also by the year of application. For instance, the focus on the dimension *nutrition & health* has increased with the years. Innovations in this dimension are most frequent in 2007, for small (29,8%) and medium (25,9%) businesses (table 2). One explanation for this result can be the increased awareness of health, wellness and nutrition as a sales argument. Small enterprises have least innovations in the dimension *environmental responsibility & climate protection* (table 2). This effect also exists over the years and could be explained by the lower personal and financial scope of small enterprises. Hence, larger investments into environmental technologies or programs are more unlikely for small, than for medium or large enterprises.

The quantitative analysis of the 140 applications shows, that innovative business solutions create new potentials with regard to new and/or existing collaborations.

The results of table 3 suggest that business innovations within the organic food sector may contribute to building up new market and business relations. As expected, innovations within the technology sector mainly may lead to collaboration with suppliers of process technologies (small businesses: 64,9, medium-sized businesses: 85,7%). Innovations around raw materials have the largest impact on cooperation between processors and suppliers who deliver these materials (small businesses: 75%, medium-sized businesses: 88%). Innovations within the dimension *environmental responsibility & climate protection* are most likely to lead to new market relations and supplier cooperation with regard to new process technologies. Innovations within the dimension *nutrition & health* mainly contribute to new market relations; this result can be explained by the high number of innovations in this dimension which are subject to concrete consumer interests (e.g. special products for allergic persons or people with food incompatibilities). Communicative or marketing-innovations also can lead to new market relations (table 3).

The study indicates, that innovative products and processes are appropriate to building up economic collaborations and networks within the organic food processing sector. Innovative business solutions on the basis of reliable contractual relationships, fair producer's prices and high quality standards may stimulate and -at the same time- require stable business relations between producers and processors.

Conclusions

On the basis of innovations within the processing sector, reliable and promising cooperation between processors and producers can be built up. However, this thesis needs further research.

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